8. The vehicle window system of claim 1, wherein the seal assembly comprises an exoskeleton formed of the active material and a seal membrane.

9. The vehicle window system of claim 1, wherein the activation signal comprises a thermal activation signal, a magnetic activation signal, an electrical activation signal, chemical activation signal, or a combination comprising at least one of the foregoing signals.

10. The vehicle window system of claim 1, wherein the seal assembly comprises the active material and a flexible seal structure.

11. The vehicle window system of claim 1, wherein the seal assembly consists of the active material.

12. The vehicle window system of claim 1, wherein the stationary frame is a door frame.

13. The vehicle window system of claim 1, wherein the active material is in translational communication with a flexible seal structure abutting the movable window, wherein the change in the at least one attribute of the active material increases or decreases the seal force of the flexible seal structure against the movable window.

14. A process for operating a vehicle window system, the process comprising:

disposing a seal assembly in sealing communication with a movable window, wherein the seal assembly comprises an active material operative to change at least one attribute in response to an activation signal, wherein a seal force of the seal assembly against the window changes with the change in the at least one attribute of the active material;

simultaneously moving the window and reducing the seal force by activating the active material; and

increasing the seal force when the window is stationary by discontinuing the activation signal to the active material.

15. The process of claim 14, wherein the active material comprises a shape memory alloy, a shape memory polymer, a ferromagnetic shape memory alloy, an electroactive polymer, an electrorheological fluid, a magnetorheological elastomer, a dielectric elastomer, a magnetorheological fluid, piezoelectric material, an ionic polymer metal composite, or combinations comprising at least one of the foregoing materials.

16. The process of claim 14, wherein the activation signal comprises a thermal activation signal, a magnetic activation signal, an electrical activation signal, chemical activation signal, or a combination comprising at least one of the foregoing signals.

17. The process of claim 14, wherein the active material forms an actuator, wherein the actuator is external to the seal structure.

18. The process of claim 14, wherein the seal assembly consists of the active material.

19. The process of claim 14, wherein reducing the seal force comprises reducing a cross sectional area of the seal assembly.

20. The process of claim 14, wherein the seal assembly comprises a plurality of strips and/or wires of the active material embedded within a seal structure.

21. A vehicle window system, comprising:

a movable window slidably disposed within a stationary frame;

a seal assembly in sealing communication with the movable window, the seal assembly comprising a seal structure and an active fluid disposed within the seal structure, wherein the active fluid is operative to change at least one attribute in response to an activation signal, wherein a seal force of the seal assembly against the window changes with the change in the at least one attribute of the active material;

an activation device in operative communication with the active fluid; and

a controller in operative communication with the activation device.

22. The vehicle window system of claim 21, wherein the active fluid comprises an electroactive gel, or a magnetorheological fluid.

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